Pork quality and what it means for a healthy way of eating

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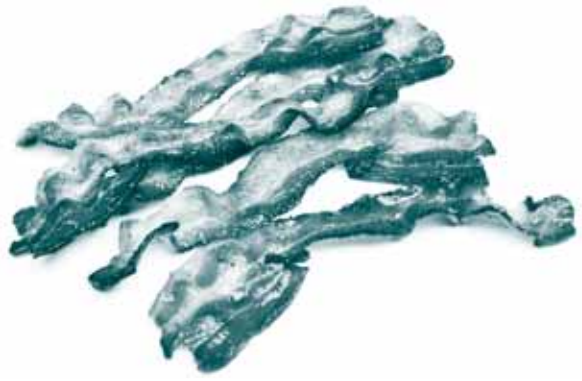
At the Canadian Meat Council's annual conference in May 2018, there was an interesting question from the audience following a presentation from Gary Taubes. "Should we be considering meat as a health food?" was the question. More interesting was Gary's response. "Yes, but it would be even more healthy if you would put some fat back into it". This was the second time for me to hear Gary Taubes speak, the first time being at the American Meat Science Association's annual conference in 2012. I remember it very well and the take home message was to reduce my carbohydrate consumption. My expectation was to curb my developing obesity and to reduce risk of metabolic disorders such as diabetes. Implicit in the message was to eat more meat. Gary was probably explicit about that. After all, this was a meat science conference. In any case, I was happy to start this experiment. From that day I switched my breakfast to bacon and eggs in place of cereal and toast. I also somewhat half-heartedly cut back on pastries and desserts, but honestly, breakfast was the only consistent change I was able to maintain. The good news was that my steady weight gain (2 to 3 lbs per year on average) stopped in its tracks. I actually lost a few pounds, but my hope of retreating to a more desirable (and healthier) weight was not to be, at least for the next five years.

After five years of enjoying breakfast more than ever (bacon and eggs every day!) my weight was stable but still significantly higher than I'd like. I'm at the Canadian Meat Council's annual conference in June 2017. One of the speakers was Nina Teicholz, Investigative Journalist & Author of the New York Times bestseller "The Big Fat Surprise". She ended her talk with the shocking conclusion (shocking for me anyway) that a healthy diet consists of low carbohydrate (no surprise), moderate protein (of course) and a high amount of fat (say what?). Following the conference, I checked out an audio-book version of Nina's "The Big Fat Surprise" from our local library. You can probably find it at your own library, but don't be "surprised" if there's a waiting list. I listened to this book on my daily commutes to work and finally a light bulb went on in my head. This was the missing point that, in retrospect, I'm now certain Gary Taubes was also making when I heard him in 2012. It also explains why this year, in answer to the question about meat being a health food, he responded "Yes, but it would be even more healthy if you would put some fat back into it".



Back in 2012, the idea of increasing fat consumption didn't come across, or at least never got through to me. I suspect that I was no exception. Cutting out carbohydrates, sure. A no brainer. However, the idea that eating fat might be ok, never mind healthy, just never dawned on me. It just seems so logical that weight gain (or loss) can be predicted by the equation "energy consumed in our diet minus energy burned" which we all know and understand. Eat more than we burn and we get fat. Burn more than we eat and we lose weight. As logical as that seems, Gary makes a very compelling argument that this simple

hypothesis just isn't supported by data. How many people are successful with sustained weight loss through counting calories or exercise programs? How many billions of dollars are spent unsuccessfully on these types of weight loss programs? How many billions more on treatments for metabolic disorders like diabetes. If you want to know more details, have a look at Gary's 2012 presentation titled "Why We Get Fat: Adiposity 101 and the Alternative Hypothesis of Obesity". It can be found at https://meatscience.org/publications-resources/rmc-proceedings/2012. My simple understanding of the alternative hypothesis is that eating carbohydrates stimulates insulin release; insulin results in energy moving from our blood into fat reserves; sustained high levels of insulin may also increase risk of diabetes; eating fat does not stimulate insulin release; and eating fat rather than carbohydrates appears to avoid the undesirable effects we get from excessive carbohydrates. What does all this have to do with pork quality? Well, what if it turns out that Gary and Nina are absolutely correct? What if a healthy diet really is low in carbohydrates, moderate in protein and high in fats? If so, then we should be thinking about fat when we think about high quality pork. We need to get past the idea that lean is healthy, and that pork is simply a good source of protein. Pigs are very good at turning carbohydrates into healthy fats for human consumption. Imagine the possibilities of what we can do with pork cuts if fat goes from villain to hero.

If you are attending Banff Pork Seminar in January, there will be a break out session on "Meat Quality". I'll talk about pork as more than a good source of protein and some related opportunities that may lie ahead for the Canadian pork industry. I'll also share the rest of the story on my journey with eating more fat in place of carbohydrates over the past 18 months. As a teaser, I'm quite happy to be a guinea pig experimenting on this different way of eating. The other speaker in the session will be Michael Young from Canada Pork International. Michael will talk about what customers around the world look for in Canadian pork, followed by a pork cutting demonstration. It's worth noting that some of the customers who pay the most for Canadian pork require a healthy balance of protein and fat in the product, and they would like even more fat. There is opportunity to learn from these markets and learn from Michael how to work with a variety of pork cuts, especially those higher in fat. The result could lead you to a more enjoyable and healthier pork eating experience and increased market value for Canadian hogs. Hope to see you in Banff!

(Feeding straw to sows ... continued from page 5

Pre- and post-prandial plasma glucose tended to decrease with processing in the wheat, but not the oat straw ($P \times S$, $P < 0.10$, data not shown) and this effect was more apparent in the preprandial samples. This, combined with the effects on digestibility, indicates that processing had a greater effect on the solubility of fiber in the oat, relative to the wheat straw.

Supplementing the gestation diet with processed straw during late gestation had no effect on litter size or piglet birth weight (Table 2). However, piglet weaning weights were improved with the oat straw supplementation (S, $P < 0.01$) and there tended to be a further improvement when the oat straw was processed ($S \times P$, $P = 0.06$). This observation could be a reflection of the improved feed intake for the sows during the initial 7 days post-farrowing that was observed with the oat straw supplementation (S, $P < 0.01$; Table 2). The improvements observed with straw processing were still evident at nursery exit ($P < 0.03$); however, piglets on the control treatment had similar nursery exit weights as piglets from sows receiving processed oat or wheat straws. Finally, treatment had no effect ($P > 0.10$) on market weight or yield, dressing or carcass yield %, mm back fat or loin depth.

Summary and Conclusions

Although data on aggression and/or satiety was not conclusive, processing the oat straw increased plasma glucose, whereas the opposite effect was observed with the wheat straw. Moreover, gestating sows fed oat straw from day 86 of gestation to farrowing had increased feed intake post-farrowing and higher average piglet weaning weights. In our study, oat but not wheat straw provided benefits for gestating sows and there was some indication that further benefits could be obtained through processing.

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